IN THE CLAIMS:

The pending claims are set forth below and have been amended and/or cancelled, without prejudice, where noted:

1-15. (canceled)

16. (Cancelled)

17. (Currently Amended) The process of claim ~~16~~ 36, wherein said slurry is diverted by flowing a portion of said slurry through a bypass line extending from one location of said reactor to a second location of said reactor.

18. (Previously Presented) The process of claim 17 wherein said bypass line carries a fraction of the slurry within the range of 0.5-50% of the total flow through said loop reactor.

19. (Previously Presented) The process of claim 17 wherein said bypass line carries a fraction of the slurry within the range of 1-15% of the total flow through said loop reactor.

20. (Previously Presented) The process of claim 17 wherein the slurry in the bypass line is reintroduced into said loop reactor at an angle within the range of 1-90°.

21. (Previously Presented) The process of claim 20 wherein the slurry in said bypass line is introduced into said loop reactor at an angle within the range of 30-60°.

22. (Previously Presented) The process of claim 20 wherein the slurry in said bypass line is introduced into said loop reactor at an angle of about 45°.

23. (Previously Presented) The process of claim 17 wherein said bypass line has an average diameter, DB, and said loop reactor has an average diameter, DL, and the ratio of DB/DL is within the range of 1:12 to 1:2.

24. (Previously Presented) The process of claim 23 wherein the ratio of DB/DL is within the range of 1:6 to 1:3.

25. (Previously Presented) The process of claim 16 wherein said slurry is circulated through said loop reactor by an impeller pump having a plurality of blades and said slurry is diverted by recirculating a portion of the slurry from the pressure side of the impeller blades of said pump to the suction side of the impeller blades of said pump.

26. (Previously Presented) The process of claim 25 wherein the portion of said slurry which is recirculated from the pressure side to the suction side of said impeller blades is within the range of 0.5-50% of the total flow through said loop reactor.

27. (Previously Presented) The process of claim 25 wherein the portion of said slurry which is recirculated from the pressure side to the suction side of said impeller blades is within the range of 1-25% of the total flow through said loop reactor.

28. (Previously Presented) The process of claim 25 wherein said slurry is diverted by the provision of a plurality of holes in at least some of said impeller blades.

29. (Previously Presented) The process of claim 28 wherein the total surface of area of the holes in said impeller blades within the range of 0.1-35% of the total surface area of said blades.

30. (Previously Presented) The process of claim 28 wherein the total surface of area of the holes in said impeller blades within the range of 0.5-15% of the total surface area of said blades.

31. (Previously Presented) The process of claim 25 wherein said pump has a pump shroud surrounding said impeller blades and wherein said impeller blades are configured to provide an empty space between at least one of said blades and said shroud.

32. (Previously Presented) The process of claim 31 wherein said empty space between said at least one blade and said pump shroud is within the range of 0.5-10% of the radius of said shroud.

33. (Previously Presented) The method of claim 32 wherein said empty space is within the range of 1-5% of the radius of said shroud.

34. (Currently Amended) The process of claim ~~16~~ 36, wherein the flow of said slurry through said loop reactor is diverted by providing a plurality of obstacles in the flow path of the slurry flowing through said loop reactor.

35. (Currently Amended) The process of claim ~~16~~ 36, wherein the polymer product recovered from said loop reactor has a bulk density which is from 1-5% greater than the bulk density recovered from said reactor system when it is operated without the diversion of slurry through said loop reactor as recited in claim 16.

36. (Currently Amended) A method of forming polyolefins comprising:

supplying ethylene monomer in a carrier liquid to a reactor system comprising at least one loop reactor;

circulating the ethylene through the loop reactor in the presence of a catalyst system to form a slurry of polymer fluff particles in the carrier liquid;

altering the flow of at least a portion of the slurry by at least one of:

flowing a portion of the slurry through a bypass line extending from one location of the loop reactor to another location of the same loop reactor;

operating a circulating pump and circulating the slurry through the loop reactor at an efficiency of from 30-75% of a pump capacity; or

providing a plurality of obstacles in a flow path of the slurry within the loop reactor; and

while continuing the introduction of the carrier liquid and ethylene monomer into the loop reactor, withdrawing a portion of the slurry from the loop reactor as a polymer product.

37. (Cancelled)